



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/682,405	10/10/2003	Yoshiyuki Yasui	012778-122	3443

21839 7590 09/16/2004

BURNS DOANE SWECKER & MATHIS L L P
POST OFFICE BOX 1404
ALEXANDRIA, VA 22313-1404

EXAMINER

CHIN, GARY

ART UNIT	PAPER NUMBER
----------	--------------

3661

DATE MAILED: 09/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/682,405

Applicant(s)

YASUI ET AL.

Examiner

Gary Chin

Art Unit

3661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,3,5-15,17 and 18 is/are rejected.
- 7) ☒ Claim(s) 2,4 and 16 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>2/17/04 & 3/22/04</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claims 3, 9 and 17-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claims 3 and 17, the recitation on lines 3-10 of the wherein clause “by approximating a characteristic of the aligning torque----- on the basis of the linear characteristic of the reference aligning torque” is vague and indefinite as well as contextually unclear. Clarification and appropriate correction are required.

As per claim 9, line 7, “a steering angle” should be “said steering angle” in order to avoid the antecedent basis problem.

Claim 18 is rejected for incorporating the above error from the parent claim by dependency.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 5 and 8-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Matsuno (PUB. No. 2002/0011093) submitted by applicants.

As per claims 1, 8 and 10-11, figure 7 and pages 5-6 of the Matsuno reference clearly disclose the claimed apparatus for estimating a road condition as well as the vehicle motion

Art Unit: 3661

control apparatus with an apparatus for estimating a road condition including an reaction torque detection means (item 22) which detects the reaction torque based upon the motor electric current, aligning torque estimation means (item 31) for estimating an aligning torque on the basis of the reaction torque, wheel factor providing means (item 12) for providing at least one of the wheel factors including a slip angle and a grip factor estimating means (item 15) for estimating a grip factor in accordance with the aligning torque and the wheel factor and steering control means (see section 2023 on page 2) for steering the wheels based upon the grip factor.

As per claims 5 and 9, it is well recognized in the art that claimed coefficient of friction as shown in item 15, figure 7 of the Matsuno reference is functionally related to or equivalent to the grip factor as claimed.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 3661

6. Claims 6 and 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuno in view of Yopp (EPA0323066) also submitted by applicants.

As per claim 6, the additionally claimed warning means for warning a driver when the grip factor or coefficient of friction is less than a predetermined value is old and well known and clearly taught in figure 4, item 40 (also see col. 4, lines 16-22 and col. 9, lines 5-7) of the Yopp reference. It would have been obvious for one skilled in the art to incorporate such well known warning device as taught in Yopp into the Matsuno system so that the driver of the vehicle can be better informed about the road condition and therefore the driving safety can be enhanced.

As per claims 12-15, the claimed feature of employing a braking force control means for controlling the braking force applied to each of the wheels based upon the grip factor is taught in figure 2, item 2 (also see col. 4, lines 35-51 and col. 10, lines 16-19) of the Yopp reference. It would have been readily apparent for a person having ordinary skill in the art to incorporate such well known braking force control device as taught in Yopp into the Matsuno system so that the stability of the vehicle can be improved.

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuno in view of Ishihawa et al (PUB. No. 2003/0028308).

As per claim 7, the claimed split road determining means based upon the difference between the left and right road surface friction coefficients is notoriously well known in the art at the time the invention was made and clearly taught in the abstract of the Ishihawa et al reference. It would have been obvious for one skilled in the art to incorporate such well known split road determining device as taught in Ishihawa et al into the Matsuno system so that the steering of the left and right wheels can be controlled in a more precise fashion.

Art Unit: 3661

8. Claims 2, 4 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
9. Claims 3 and 17-18 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.
10. The additional reference(s) is/are cited to show the related system(s). Applicant(s) should consider them carefully when responding to the current office action.
11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary Chin whose telephone number is (703) 305-9751. The examiner can normally be reached on Monday-Friday 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas G Black can be reached on (703) 305-8233. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


GARY CHIN
PRIMARY EXAMINER